

L 16459-66
ACC NR: AP6009074

SOURCE CODE: UR/0105/65/000/004/0014/0C19

AUTHOR: Dmokhovskaya, L. F. (Candidate of technical sciences); Dzhunkovskiy, O. N. (Engineer); Lyakov, Yu. I. (Engineer); Nebrat, L. E. (Engineer); Spuv, G. S. (Engineer); Shur, Yu. B. (Engineer); Yakub, Yu. A. (Engineer) 24
B

ORG: none

TITLE: Development and introduction of spark connection and forcing of reactors in long distance electrical transmission 4

SOURCE: Elektrichestvo, no. 4, 1965, 14-19

TOPIC TAGS: electric power transmission, electric distribution equipment, high voltage line

ABSTRACT: The introduction of high voltage, high power electric power transmission was greatly aided by the switch from limiting power to suit the capacity of insulation and transmission structures under all possible conditions to the limitation of loads to suit the capacities under normal conditions and the installation of reactors and circuit breakers to prevent sudden overloads. One remaining problem was the slow action of mechanical switching devices. This has been defeated by the installation of spark gaps. The reactors are constantly connected to the line through spark gaps, across which a spark arcs almost instantaneously in case of overload. A 500 kv transmission line was

Card 1/2

UDC: 621.311.1 2

L 16459-66
ACC NR: AP6009074

set up between the Bratsk power station and Irkutsk and tests and analysis of the operation of the equipment described were run. It was discovered that overloads occurred mostly in the second or third half-cycle of operation. It was also discovered that it is profitable to install spark-operated reactors at substations, even at terminal stations in many cases. Diagrams and photographs of the equipment, as well as a table showing the results of investigations on a model of internal overloads and the influence on them of various means of connection of the 500 kv reactors, are presented. Analysis showed that the devices worked reliably and safely, and that the internal resistance of the spark in the gap could be ignored. Orig. art. has: 4 figures and 1 table. [JPRS]

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 007 / OTH REF: 001

Card 2/2 mc

ACC NR: AP7001087 (A,N) SOURCE CODE: UR/0439/66/045/005/0679/0686

AUTHOR: Yakuba, V. N.

ORG: Irkutsk Scientific Research Anti-plague Institute of Siberia and the Far East (Irkutskiy nauchno-issledovatel'skiy protivochumnyy institut Sibiri i Dal'nego Vostoka)

TITLE: Seasonal variations in the population and diurnal activity rhythm of mosquitoes in a tularemia focus of Central Yakutia

SOURCE: Zoologicheskii zhurnal, v. 45, no. 5, 1966, 679-686

TOPIC TAGS: epidemiology, animal parasite, mosquito, tularemia

ABSTRACT: Systematic mosquito collections in a Central Yakutia tularemia focus in 1961-1962 showed that *Aedes cinereus* makes up 60% of the mosquito population, *Aedes cataphylla* — 20%, and *Aedes flavescens* — 7%. *Aedes cataphylla* is most prevalent in June (77% predominance) and *Aedes cinereus* in July (90%) and August (97%). In this area mosquitoes attack from late May to September, and are most numerous in late June and early July. Changes in diurnal activity of mosquitoes make contraction of tularemia by mosquito bite most likely in the evening and at night during June and July, and in the daylight

Card 1/2

UDC: 595.771:591.5+616.981.455(571.56)

ACC NR: AP7001087

hours in August. The mosquito population is always higher on islands than on banks. Orig. art. has: 7 tables and 5 figures. [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 006 [WA-50; CBE No. 14]

Card 2/2

ACC NR: AP7000142

SOURCE CODE: UR/0046/66/012/004/0405/0410

AUTHORS: Blagoy, Yu. P.; Butko, A. Ye.; Mikhaylenko, S. A.; Yakuba, V. V.

ORG: Physicotechnical Institute for Low Temperatures, AN UkrSSR, Khar'kov (Fiziko-tekhnicheskiiy institut nizkikh temperatur AN UkrSSR)

TITLE: Velocity of sound in liquid nitrogen, oxygen, and argon at temperatures higher than the normal boiling temperatures

SOURCE: Akusticheskiiy zhurnal, v. 12, no. 4, 1966, 405-410

TOPIC TAGS: sound propagation, oxygen, nitrogen, argon, specific heat

ABSTRACT: The velocity of sound in liquid nitrogen, oxygen, and argon in the temperature region of 77—87K and 112—120K was determined. The investigation supplements the results of I. S. Radovskiy (Eksperimental'noye issledovaniye skorosti ul'trazvuka na linii nasyshcheniya v argone. Zh. prikl. mekh. i tekhn. fiz., 1963, 3, 159. Issledovaniya skorosti zvuka v zhidkom i gazoobraznom argone. Zh. prikl. mekh. i tekhn. fiz., 1964, 3, 172). The experimental technique is described by A. Ye. Butko, S. A. Mikhaylenko, and V. V. Yakuba (Ul'trazvukovoy interferometr dlya nizkotemperaturnykh zhidkostey. Sb. Voprosy metodiki ul'trazvukovoy interferometrii. Tr. Vses. konferentsii po metodike ul'trazvukovoy interferometrii. Kaunas, Izd-vo Mintis, 1966). A schematic of the experimental installation is presented. From the

Card 1/2

UDC: 534.22:542.79

ACC NR: AP7000142

experimental results, values for the adiabatic and isothermal compressibility and specific heats at constant pressure and constant volume, respectively, were derived. The experimental results are tabulated. It was found that these results were in good agreement with data reported in the literature. Orig. art. has: 4 tables, 1 graph, and 6 equations.

SUB CODE: 20/ SUBM DATE: 26Apr65/ ORIG REF: Q06/ OTH REF: 012

Card 2/2

YAKUBANETS, S.

YAKUBANETS, S.; RUBTSOV, G.; BAL'NOV, M.; SHISHKIN, R.

Prestressed reinforced concrete large-span frames in Stalingrad and
Stalinsk. Stroitel' no.3:2-5 Mr '58. (MIRA 11:2)

1. Glavnyy inzhener tresta Stalingradmetallurgstroy (for Yakubanets).
2. Glavnyy tekhnolog tresta Stalingradmetallurgstroy. (for Rubtsov).
3. Glavnyy inzhener tresta Kuznetskiyazhstroy (for Bal'nov). 4. Glavnyy inzhener proyekta (for Shishkin)
(Stalingrad--Precast concrete) (Stalinsk--Precast concrete)

YAKUBANETS, S.; RUBTSOV, G.

Progressive methods of building an aluminum plant. Na stroi.Ros.
no.3:11-14 Mr '61. (MIRA 14:6)

1. Upravlyayushchiy trestom Stalingradmetallurgstroy (for
Yakubanets). 2. Glavnyy tekhnolog tresta Stalingradmetallurgstroy
(for Rubtsov).

(Stalingrad--Metallurgical plants)
(Precast concrete construction)

DONIKA, I.S.; GANYA, I.M.; YAKUBANIS, V.N.

Frightening injurious birds from the orchards and vineyards
of Moldavia. Ornitologia no.6:337-340 '63.

(MIRA 17:6)

YAKUBAUSKAS, V. I.

Cand Tech Sci - (diss) "Study of technico-exploitation properties of tractor MTZ-5K 'Belorus' " operating on soils of intersecting terrain and increased moisture of the Lithuanian SSR." Kaunas, 1961. 31 pp; with diagrams; (Ministry of Agriculture Lithuanian SSR, Lithuanian Agricultural Academy); 180 copies; price: free; (KL, 10-61 sup, 220)

YAKUBAUSKAS, V.I. [Jakubauskas, V.], kand. tekhn. nauk

Effect of relief on the operational indices of the "Belarus" tractor. Mekh. i elok. sots. sel'khoz. 21 no.1:18-19 '63.

(MIRA 16:7)

1. Litovskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

(Tractors)

ACCESSION NR: AP4009192

S/0288/63/000/003/0139/0142

AUTHOR: Tropin, Yu. D.; Yakubaylik, E. K.

TITLE: Investigation of the magnetic properties of filiform monocrystals of iron

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izv. Seriya tekhnicheskikh nauk, no. 3, 1963, 139-142

TOPIC TAGS: iron crystals, iron whiskers, iron hysteresis, iron susceptibility, filiform iron, iron dislocation studies, iron saturation magnetization, ferromagnetism, Fe

ABSTRACT: The possibility of studying the magnetic properties of almost ideally perfect iron crystals and relating the results to the perfection of a crystal lattice, using the basic ideas of the theory of dislocations, stimulated the present article. The authors refer to investigations by E. M. Kadgornyy, Yu. A. Osip'yan, M. D. Perkas and V. M. Rosenberg (Nitevidny*ye kristally* s prochnost'yu, blizkoy k teoreticheskoy, UFN, 67, 4, 625-662, 1959) and E. M. Kadgornyy (Svoystva nitevidny*kh kristallov, UFN, 77, 2, 201-227, 1962) and others, where much attention has been devoted to so-called "whiskers"-- filiform

Cord

1/43

ACCESSION NR: AP4009192

crystals of metals and their oxides, which observe a highly-perfected crystal lattice. The authors have investigated 150 whiskers of iron which were grown with three main orientations: [100], [110], [111]. Magnetization curves were made with a ballistic device while transferring the container holding a sample from one search coil to another. The coils were balanced and connected in opposite phase. Typical magnetization curves of the three types of whiskers with a diameter of 200-300 microns are shown in Figure 1. The characteristic of the curves, magnitude of saturation magnetization and values of saturation fields for each type of curve are found to be the same as those of ordinary monocrystals of iron. Hysteresis and dynamic susceptibility loops presented on an oscilloscope screen were photographed at an alternating magnetization frequency of 200 cycles per second. An amplification channel of the signal $E \sim dI/dt$ allowed its passage without distortions, and integration of pulses with durations from 5 to 40 microseconds. Wide band amplifier USH-10 was used to study whiskers with rectangular hysteresis loops. The authors conclude that further research is needed in the connection that fine iron whiskers, crystallized in the orientation [100], observe rectangular hysteresis loops and a high alternating magnetization speed important for the theory of ferromagnetism. Orig. art. has: 3 figures.

Card 2/43

ACCESSION NR: AP4009192

ASSOCIATION: Krasnoyarskiy institut fiziki Sibirskogo otdeleniya AN SSSR
(Krasnoyarsk Physics Institute, Siberian Division, AN SSSR)

SUBMITTED: 27Aug62

DATE ACQ: 10Feb64

ENCL: 01

SUB CODE: PH

NO REF SOV: 002

OTHER: 006

Card 3/4 3

KLEYER, M.D., inzh.; YAKUBAYTIS, A.A., inzh.

Embankment made of hollow concrete blocks. Transp. stroi. 11
no.8:23-24 Ag '61. (MIRA 14:9)

(Klaipeda--Embankments)

YAKUBAITIS, Eduard Aleksandrovich [Jakubaitis, Eduards]; LEVI, S.,
red.; BOKMAN, R., tekhn.red.

[Automatic control of synchronous generators with varying
angular velocity] Avtomaticheskoe regulirovanie sinkhronnykh
generatorov pri peremennoi skorosti vrashcheniia. Riga, Izd-vo
Akad.nauk Latviskoi SSR, 1947. 155 p.

(MIRA 14:12)

(Electric generators)

YAKUBAYTIS, E. A.

Yakubaytis, E. A. - "The crude synchronization of electric generators and networks", Sbornik nauch. statey studentov Rostov na Donu, 1949, p. 5-11.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

YAKUBAYTIS, Ye. A.

U S S R .

621.313.322
3066. — Method of calculating the steady-state characteristic of a generator working across a long electric power transmission with automatic control of the excitation. Ye. A. Yakubaytis. Latv. PRS Zhurn. Akad. Vestis, 1954, No. 4, 75-100 In Russian.

The method permits the calculation of the steady-state power characteristic of a synchronous generator with salient poles working across a long transmission line, represented by a quadripole, on a large power system, taking into account the action of the automatic regulation of the excitation, armature resistance and saturation in the direct field axis. A numerical example, using data of the Kuibyshev-Moscow scheme, clarifies the use of the equations.

P. BUSEMANN

YAKUBAYTIS, E.H.

STEADY STATE CHARACTERISTIC OF THE MEAS-
URING CIRCUIT OF BEHAVIOR OF THE MEAS-
URING CIRCUIT OF BEHAVIOR OF THE MEAS-

YAKUBAYTIS, E. A.

621.311.6:625.23
✓4574. Direct current supply systems for railway
carriages. E. A. YAKUBAYTIS. Latv. PSR Ziņot.
Akad. Vēsts, 1955, No. 3, 107-16. In Russian.
Synchronous generators feeding through rectifiers

are recommended, as they do not suffer from dis-
advantages peculiar to systems fed from d.c. genera-
tors: insufficient time for recharging the battery, need
for a ballast resistance, vibrating type regulators.
The preferred scheme requires a double-winding
3-ph. generator, two sets of rectifiers, a voltage and a
current regulator.

A. KARLSBAD

YAKUBAYTIS, E.A., kandidat tekhnicheskikh nauk (Riga)

Electric power plant underneath a railroad car. Nauka i zhizn'
23 no.10:50 0 '56. (MLRA 9:11)
(Latvia--Railroads--Electric equipment)

YAKUBATTIS, E.A., kandidat tekhnicheskikh nauk.

System of a.c. electric power supply for passenger cars. Zhel.
dor.transp. 37 no.7:35-36 J1 '56. (MLRA 9:8)
(Railroads--Electric equipment)

YAKUBAYTIS, E.A.

PA - 2783

AUTHOR:
TITLE:

JAKUBAJTIS, E.A.
Contactless Circuit for the Forced Excitation of the
Synchronous Alternator. (Beskontaktnoe ustrojstvo dlja
forsirovki wobugjdenja sinchronnich generatorow, Russian)
Latvijas PSR Zinatnu Akad. Vestis, 1957, Vol 1, Nr 3 (116),
pp 147 - 152 (U.S.S.R.)
Received: 5 / 1957

Reviewed: 6 / 1957

PERIODICAL:

ABSTRACT:

The voltage of the synchronous alternator is kept equal in the case of normal operation by the normal voltage regulation. The current flows from the voltage transformer via the rectifier to R_2 , where it causes a voltage drop of inverse polarity to B_1 . At 2 no current flow takes place. At B_2 the voltage drops and increases at B_1 when the generator voltage decreases considerably with a simultaneous increase of the current (short circuit in the stator winding etc). The current 1 passes through 2. Contactless circuit accelerates the increasing of the current.

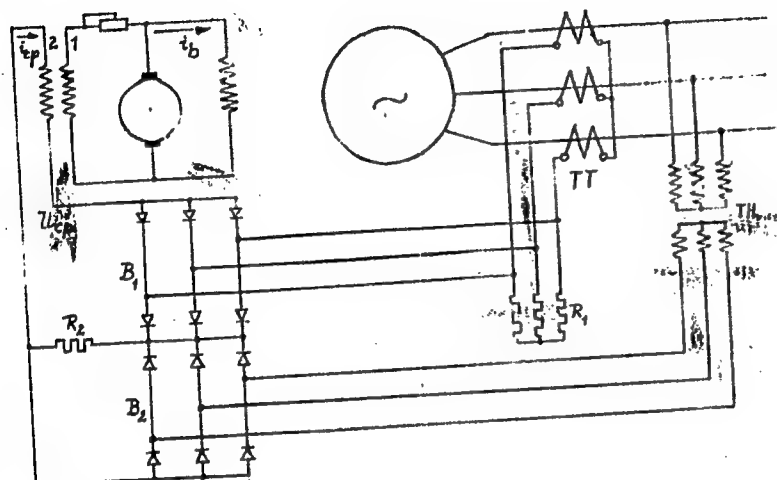
Conclusions:

As movable parts and contacts are lacking, the circuit is explosion-proof. The circuit shows inertia and requires no continuous current flow. It is probably used for the purpose of avoiding accidents.

Card 1/3

PA - 2783

Contactless Circuit for the Forced Excitation of the Synchronous Alternator



First Contour:

- TT - current transformer
- R₁ - rheostat
- B₁ - rectifier
- R₂ - switching resistance
- 2 - exciter winding

Second Contour:

- TH - voltage transformer
- B₂ - rectifier
- R₂ - switching resistance

Card 2/3

PA - 2783

Contactless Circuit for the Forced Excitation of the
Synchronous Alternator.

ASSOCIATION: Energy Economics and Electrotechnics of the Academy of Science
of the Latvian S.S.R.

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress.

Card 3/3

YAKUBAYTIS, L.A.
SHTURMAN, G.I., doktor tekhnicheskikh nauk, professor, ~~YAKUBAYTIS, L.A.~~,
kandidat tekhnicheskikh nauk.; KROONERIS, A.P., kandidat tekhnicheskikh
nauk.; APSIT, V.V., kandidat tekhnicheskikh nauk.

A new system of autonomous power supply for railway passenger cars.
Elektrichestvo no.3:39-43 Mr '57. (MIRA 10:4)

1. Institut energetiki i elektrotekhniki Akademii nauk Latvyskoy
SSR.

(Railroads--Electric equipment)

Yakubaytis, E.A.

CALCULATIONS: FORMULAS

"Procedure for the Calculation of the Optimum Parameters of D-C Bridge Measuring Circuits", by Candidate of Technical Sciences E.A. Yakubaytis, Izvestiya, (Bulletin) of the Academy of Sciences Latvian SSR, No 6, (119) 1957, pp 95-109.

A procedure is given for choosing the optimum parameters of a measurement d-c bridge circuit operating with an input from an amplifier having a control winding (magnetic, dynamoelectric, carbon pile, etc.). The nonlinear bridge elements used in this article are barreters, but the procedure described can be readily extended to include other bridge circuits in which there are other nonlinear elements, whose characteristics lend themselves to piecewise-linear approximation.

Card 1/1

YAKUBAYTIS, E.A

AUTHOR: 1) Cand. Techn. Sc. V.V. KAPLAN, Cand. Techn. Sc. . 105-8-17/20
NASHATYR', V.M.
2) Dr. Techn. Sc. Prof. G.I. SHTURMAN, Cand. Techn. Sc. E.A. YAKUBAYTIS,
Cand. Techn. Sc. A.F. KROGERIS, Cand. Techn. Sc. V.V. APSIT,
Cand. Techn. Sc. A.G. ZDROK, Cand. Techn. Sc. Ass. Prof. G.P. SMIRNOV

TITLE: 1) On the Testing of Current-Limiting High-Frequency Fuses in
an Oscillatory Circuit. (Ispytaniye vysokovol'tnykh tokoogra-
nichivayushohikh predokhraniteley na kolebatel'nom konture)
2) On the Work of the Saturation Impedance with a Semiconductor
Rectifier and Active Induction Load. (Rabota drosselya
nasyshcheniya s poluprovodnikovym vypryamitelem i aktivno-
induktivnoy nagruzkoy)

PERIODICAL: Elektrichestvo, Nr 8, pp 74 - 77 (U.S.S.R.) , 1957

ABSTRACT: 1) Refers to the article by both authors in Elektrichestvo, 1956,
Nr 5. Reference is made to the letter by Dr. A. Myslitskiy
(Poland). The latter writes that only symmetrical short-
circuit current curves are given in the article, whereas
in a number of cases especially difficult conditions develop
for the switching off of an arc in a high-frequency fuse, due
to the presence of an aperiodic component in the short-circuit
current. The authors announce that in later works a system
was used by means of which investigations can be made on

Card 1/2

105-8-17/20

- 1) On the Testing of Current-Limiting High-Frequency Fuses in an Oscillatory Circuit.
- 2) On the Work of the Saturation Impedance with a Semiconductor Rectifier and Active Induction Load.
- 1) The circuit-breaking capacities of the current-limiting fuses in an oscillatory circuit not only in the case of symmetrical short-circuit current curves, but also in the presence of an aperiodic component in the current curve. (2 illustrations)
- 2) Refers to the article by A.G.Zdrok and G.P.Smirnov in Elektrichestvo, 1956, Nr 10. Zdrok and Smirnov are reproached by the first four above-mentioned authors the following: it is only in the third part of the paper that a concrete statement of problems may be comprehended; it is completely unintelligible which problem is exactly treated in the first part of the paper; why they cite data by Komar and Kaganov as their own; the paper is only a great disorder without giving any solution. The authors state that they only wanted to give recent data and point out experiments without describing them. (With 2 Slavic references)

Card 2/2

AUTHOR
TITLE

YAKUBAYTIS, E.A. (Riga)

PA - 2562

Analytical Expression for Static Characteristic of a Metering Device of a Choke Regulator. (Analiticheskogo vyrazheniye staticheskoy kharakteristiki izmeritel'nogo ustroystva drossel'nogo regul'yatora, Russian)

PERIODICAL:

Avtomatika i Telemekhanika, 1957, Vol 18, Nr 3, pp 267 - 272

(U.S.S.R.)

Received: 4 / 1957

Reviewed: 6 / 1957

ABSTRACT:

A metering device based on the comparison of two different voltages has the most general scheme. Such metering device is described in the present paper. Other types can be obtained by simplifying this scheme. The suggested method is valid under the following assumptions: 1) The magnetic characteristic of the choke is shown in a certain approximation in form of two straight lines. 2) The real volt-ampere characteristic of the valve is replaced by an idealized one, consisting of two straight lines. 3) The control winding is given as an active resistance R_c . 4) The influence of the separating transformer is not taken into account. The equation for the working scope of the static characteristic of the metering device is deduced and, following this, also the static characteristic for the non-working domain. The linear partial approximation of the choke magnetizing curve and the volt-ampere characteristic

Card 1/2

PA - 2562

Analytical Expression for Static Characteristic of a Metering Device of a Choke Regulator.

of the semiconductor rectifier offers the possibility of calculating the metering device approximatively by two non-linear elements. This method can also be applied for other typed of metering devices of choke controls as well as for a few other schemes with saturation chokes and semiconductor valves. The deviations between investigation- and calculation- results are shown in two diagrams. (7 illustrations and 2 citations from Slav literature)

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 7.4.1956
AVAILABLE: Library of Congress.

Card 2/2

YAKUBAYTIS, E.A., kandidat tekhnicheskikh nauk.

On the possible uses of semiconductors in railroad transport.
Zhel.dor.transp. 39 no.7:50-52 J1 '57. (MLRA 10:8)
(Semiconductors)

YAKUBAYTIS, E.A., [Jakubaitis, E.A.], kand. tekhn. nauk; KROGERIS, A.F.;
APSIT, V.V. [Apsits, V.]; VENGROVICH, A., red.; INKIS, R.,
tekhn. red.

[Development and present state of electric power supply
techniques for railroad passenger cars; brief review] Razvitie
i sostoianie tekhniki elektrosnabzhenia passazhirsikh zhelezn-
dorozhnykh vagonov; kratkii obzor. Riga, Izd-vo Akad. nauk Latvii-
skoi SSR, 1958. 75 p. (MIRA 14:12)
(Railroads—Electric equipment)

YAKUBAITIS, E.

GENERAL

PERIODICALS: VESTIS No. 1, 1958

JUKUBAITIS, E. Germanium rectifiers in the electric-supply system for railroad passenger cars. In Russian. p. 121

Monthly list of East European Accessions (EEAI) LC, VOL. 8, No. 2,
February 1959, Unclass.

8(6)

SOV/112-59-1-545

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1, p 71 (USSR)

AUTHOR: Yakubaytis, E. A., and Vayvars, M. P.

TITLE: Single-Phase Bridge-Rectifier Scheme in the Field Current of a Synchronous Generator

PERIODICAL: Tr. In-ta energ. i elektrotekhn. AS Latvyskaya SSR, 1958, Vol 6, pp 39-57

ABSTRACT: An analysis of the functioning of a single-phase bridge rectifier that uses semiconductor valves and is intended for field supply of a synchronous generator is presented. To evaluate possible simplifications in the analysis of generator transients, the influence of the field alternating-current frequency (individual sinusoidal components of the pulsating rectified current) upon the field-winding inductance and resistance is examined. Due to the skin effect, the field-winding resistance and impedance of a 6-SG-60 type salient-pole generator rapidly rise with the current frequency. For this reason, with a

Card 1/2

SOV/112-59-1-54,

Single-Phase Bridge-Rectifier Scheme in the Field Current of a Synchronous
sinusoidal voltage across the rectifier input, the synchronous-generator field winding can be replaced with a resistance equal to the DC resistance of this winding and a filter passing only the DC component of the rectifier output voltage. The validity of this assumption is confirmed by experiments conducted with various types of generators. With this assumption accepted, valve currents under various conditions have been determined, the limit conditions imposed by the valve parameters have been found, and the relationship between the field-winding direct current and the rectifier-input sinusoidal-voltage amplitude has been determined. Knowing the influence of frequency upon the field-winding resistance and time constant, the inference is drawn that in calculating currents and voltages in the bridge arms, fed by sinusoidal current, the field-winding time constant (under short-circuit conditions of the rectifier) can be taken equal to infinity.

A.A.V.

Card 2/2

YAKUBAYTIS, E.A., kand.tekhn.nauk; LIBMAN, A.Z., inzh.

Railroad car electric power plants equipped with a.c. generators
and semiconductor rectifiers. Vest. TSNII MPS [17] no.7:55-57
N '58. (MIRA 11:12)

(Railroads--Electric equipment)

JAKUBAITIS, E.

GENERAL

PERIODICALS: VESTIS, NO. 8, 1958

JAKUBAITIS, E. Optimum parameters of electromagnetic apparatus, fed by a semiconductive triode. In Russian. p. 111.

Monthly list of East European Accessions (EEAI) LC, VOL. 8, No. 2
February 1959, Unclass.

YAKUBAYTIS, E.A., Doc Tech Sci — (diss) "Self-exciting synchronous generator with alternating frequency." [Riga], 1959. 24 pp
(Acad of Sci USSR. Power ^{Engineering} Institute im G.M. Krzhizhanovskiy).
170 copies. List of author's works, pp 22-24 (Kl, 39-59, 103)

38

PHASE I BOOK EXPLOITATION

80V/3777

Yakubaytis, Eduard Aleksandrovich

Samovozbuzhdayushchiysya sinkhronnyy generator pri peremennoy chastote
(Self-Excited Synchronous Generator at Varying Frequency) Riga, 1959.
359 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Latvyskoy SSR. Institut energetiki i
elektrotekhniki.

Ed.: S. Levi; Tech. Ed.: R. Bokman; Resp. Ed.: V. S. Kulebakin,
Academician.

PURPOSE: This monograph is intended for engineering personnel engaged
in designing multipurpose alternating-current generators.

COVERAGE: The author discusses the importance of studying power supply
systems in which the frequency varies over a wide range and also the
design of synchronous generators and automatic control gears capable
of securing specified parameters of generated electric energy at
varying frequency. The most important results of the author's in-

Card 1/8

Self-Excited Synchronous (Cont.)

SOV/3777

vestigations in the field of automatic control of generator excitation are described in this monograph. The author thanks Academicians V. S. Kulebakin and K. K. Plaude. There are 177 references: 128 Soviet (6 of which are translations), 22 English, 24 German, and 3 French.

TABLE OF CONTENTS:

Foreword	3
Introduction	7
1. Early alternating current generators	7
2. Introduction of electric generator self-excitation circuitry	10
3. Self-excitation of synchronous generators	11
4. Synchronous generators with varying speed	15
Ch. I. Power Circuitry of Alternating Current Electric Supply Systems	19
1. Operating conditions and requirements of electrical equipment for transportation	19

Card 2/8

YAKUBAYTIS, E.^A [Jakubaitis, E.] (Riga)

Voltage regulator based on semiconductors. Vestis Latv ak no.9:65-69
'59. (EEAI 9:10)

1. Akademiya nauk Latviyskoy SSR, Institut energetiki i elektrotekhniki.
(Voltage regulators) (Semiconductors)

GLUKHOV, V. (Riga); ^AYAKUBAITIS, E. [Jakubaitis, E.]

Calculation of branched circuit having choking coil with iron core.
Vestis Latv ak no.10:59-64 '59. (EEAI 9:10)

1. Akademiya nauk Latviyskoy SSR, Institut energetiki i elektrotekhniki.
(Electric circuits) (Iron)

RATNIYEKS, El'vira Avgustovna [Ratnieks, Elvira]; YAKUBAYTIS, E.A.
[Jakubaitis, E.], kand.tekhn.nauk, otv.red.; TEYTEL'BAUM, A.,
red.; PANGLIS, Ya., [Paeglis, J.], tekhn.red.

[Electric power plant for passenger cars] Elektricheskaja
stantsija dlia passazhirskogo vagona. Riga, Izd-vo Akad.nauk
Latviskoj SSR, 1960. 52 p. (MIRA 14:12)
(Railroads--Electric equipment)

SHTURMAN, G.I., prof., doktor tekhn.nauk; APSIT, V.V., kand.tekhn.nauk;
YAKUBAYTIS, E.A., kand.tekhn.nauk; KROGERIS, A.V., kand.tekhn.nauk

Systems of electric supply for railroad cars. Zhel.dor.
transp. 42 no.1:56-57 Ja '60. (MIRA 13:5)
(Railroads--Electric equipment)

(Power Engineering)
YAKUBAYTIS, Eduard Aleksandrovich (*Engineering of the* Institute of ~~Energetics~~ *Electrical* and Electro-
~~technics~~ Acad Sci Latvian SSR) for Doc of Technical Sci on the basis of
dissertation defended 29 Oct 59 in the Council of *Power Engineering* ~~the Energetics~~ *Institute*
~~Acad~~ im. Krzhizhanovskiy, Acad Sci USSR, entitled: "Auto *Self-exciting* Stimulating
Synchronous Generator *with* Alternating Frequency." (BMVISO USSR, 2-61,31)

GLUKHOV, Vasiliy Pavlovich, kand. tekhn. nauk; YAKUBAYTIS, Eduard
Aleksandrovich [Jakubaitis, E.], doktor tekhn. nauk;
SAVEL'YEVA, Ye., red.; PILADZE, Ye. [Piladze, E.], tekhn.
red.

[Physical simulation of choke-type magnetic amplifiers]
Fizicheskoe modelirovanie drossel'nykh magnitnykh usi-
litelei. Riga, Izd-vo Akad. nauk Latviiskoi SSR, 1961. 191 p.
(MIRA 15:2)

1. Chlen-korrespondent Akademii nauk Latviyskoy SSR (for
Yakubaytis).

(Magnetic amplifiers) (Electric networks analyzers)

9.7200

S/194/62/000/009/015/100
D201/D308

AUTHOR: Yakubaytis, E. A.

TITLE: Theoretical fundamentals of mathematical simulation of magnetic amplifiers and saturation chokes

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 9, 1962, abstract 9-2-28 v (Tr. In-ta elektron. i vychisl. tekhn. AN LatvSSR, 1961, 1, 5-27)

TEXT: The author considers the theoretical fundamentals of simulation of magnetic amplifiers and chokes which find wide application in the installations of automatic control. The analysis of dependences which characterize the processes occurring in magnetic amplifiers and saturation chokes shows that introducing relative units and dimensionless criteria makes possible the following: 1) to obtain analogs of amplifiers and chokes having magnetic circuits of various materials and various forms without changing the depen-

— dence $\mu^* = \varphi(H^*)$ set in the nonlinear units of the analog machine;

Card 1/2

Theoretical fundamentals of ...

S/194/62/000/009/015/100
D201/D308

2) to analyze the characteristics of the amplifiers and chokes operating at different frequencies without using any frequency in the analog machine; 3) to reduce sharply the number of variable coefficients in the units of the analog computer. 4 figures. 1 reference. ✓
[Abstracter's note: Complete translation.]

Card 2/2

22338

9,7200

9,6000

AUTHORS:

Yakubavtis, E., Vaivars, M.

S/197/61/000/003/001/003
B101/B206

TITLE:

Apparatus for determining the time constant of an electro-magnetic attenuation process

PERIODICAL: Izvestiya Akademii nauk Latvyskoy SSR, no. 3, 1961, 41-50

TEXT: Till now, the time constant of a transition process had to be calculated from the oscillogram, which is rather complicated. This article describes an apparatus on the basis of computer engineering, which serves for direct measurement of the time constant. The following equations are written down for the process: $u = U_0 \exp(-t/T)$ (1), where U_0 is the initial value and T the time constant. Since $du/dt = -(U_0/T) \exp(-t/T)$ (2), $T = u/(-du/dt)$ (3). Fig. 1 shows the principal circuit of an apparatus performing the mathematical operation of Eq. (3). The voltage u to be investigated is fed to the pre-amplifier 1, and after amplification (ku), to the differentiator 2. The output voltage of the differentiator is proportional to du/dt . In the dividing Card 1/8.4

22338

Apparatus for determining...

S/197/61/000/003/001/003
B101/B206

unit 3, ku is divided by du/dt and gives the time constant T . Fig. 2 shows the circuit diagram of the apparatus. The amplifier 1 serves for the amplification of the input voltage. The differentiator 2 is an amplifier with capacitance at the input and active resistance in the feedback. For the stabilization of 2, a small active resistance is connected in series to the capacitance; this resistance is not shown in Fig. 2 and does not cause any noticeable error. The $\beta \Pi$ multiplier serves for dividing voltage u_1 by voltage u_2 , which is proportional to the derivative of u_1 , and the nonlinear unit βH with hyperbolic characteristic for forming the reciprocal value of u_2 . The amplifiers 3 and 4 belong to the nonlinear unit and multiplier, the amplifiers 5, 6, 7 serve for changing the voltage sign. βH is the measuring unit. The maximum voltage admissible for the units used amounts to 100 v. It is attained at the output of 1. $u_2 = (U_0 k_2 / T) \exp(-t/T)$ (6) is written down for the voltage at the output of 2. The condition $U_0 = u_2 = 100$ v is fulfilled at $k_2 = T$ (7). $u_3 = k_2 / u_2$ (8) is written

Card 2/8-4

22338

S/197/61/000/003/001/003
B101/B206

Apparatus for determining...

down for the voltage u_3 at the output of the nonlinear unit, and
 $u_4 = 0.01u_1u_3$ (9) for u_4 at the output of the multiplier.
 $u_4 = 0.01k_3T/k_2$ (10) results therefrom. If $u_{4 \min} = 100\alpha$; ($0 < \alpha \leq 1$),
 $k_3 = 10,000\alpha$ (11). Between u_2 and u_3 , the correlation $u_2 = 10,000\alpha/u_3$ (12)
exists, i.e. for $u_3 = 100$ v, $u_2 = 100\alpha$ (13). From this follows:
 $u_1 = 100T\alpha/k_2$ (14). When assuming that $U_0 = 100\beta$; ($0 < \beta \leq 1$), $\exp(-t/T)$
 $= T\alpha/k_2\beta$ (15) is obtained. By means of Eq. 15 the value of t/T , in
which u_3 reaches the maximum value of 100 v, may be calculated, and the
duration of the process, during which the time constant can be measured,
may thus be determined. The measurable duration of the process depends
on α/β . $\beta = 1$ was chosen. By means of the units of the analog
electronic computer of the type MH-7 (MN-7), $\alpha = 0.3$ could be obtained
as minimum value. Fig. 5 shows the determination of the time constant T
of three exponential processes ($T = \text{const}$). The maximum deviation of the
measured results amounts to 6%. It is now explained that the time

Card 3/8 ✓

22338

S/197/61/000/003/001/003
B101/B206

Apparatus for determining...

constant $T = L/R$ is no longer constant when L and R are variable, and the conception of the instantaneous value τ of the time constant is therefore introduced: $\tau = u/(du/dt)$ (17). The apparatus described also enables the measurement of τ . Fig. 9 shows the measurement of τ for the excitation of the winding of an electric machine. The curve of this process is no longer exponential and τ changes therefore with the time. There are 10 figures. X

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN
Latviyskoy SSR (Institute of Electronics and Computer
Engineering of AS, Latviyskaya SSR)

SUBMITTED: June 6, 1960

Card 4/8

YAKUBAYTIS, E.[Jakubaitis, E.]

Most important problems in the Physics and Technical Sciences
Section of the Academy of Sciences of the Latvian S.S.R. Vestis
Latv ak no.7:135-136 '61.

(Latvia--Physics--Research).
(Latvia--Technology)

YAKUBAYTIS, E.[Jakubaitis, J.]; YADINA, V.

Optimum parameters of magnetic choke-coupled amplifiers. Vestis
Latv ak no.9:31-41 '61.

1. Akademiya nauk Latvyskoy SSR, Institut elektroniki i vychislitel'noy
tehniki.

PHASE I BOOK EXPLOITATION

SOV/6399

Yakubaytis, Eduard Aleksandrovich

Osnovy tekhnicheskoy kibernetiki (Principles of Engineering Cybernetics). Riga, Izd-vo AN LatSSR, 1962. 286 p. Errata slip inserted. 15,000 copies printed.

Sponsoring Agency: Institut elektroniki i vychislitel'noy tekhniki Akademii nauk Latviyskoy SSR. Rzhskiy politekhnicheskii institut Soveta narodnogo khozyaystva Latviyskoy SSR.

Ed.: Ye. Savel'yeva; Tech. Ed.: R. Bokman.

PURPOSE: This book is intended for technical personnel concerned with the automation of the production of industrial, transportation and agricultural enterprises. Moreover, it could be used as a textbook in advanced courses at various institutions of higher technical education.

Card 1/1

Principles of Engineering Cybernetics

SOV/6399

COVERAGE: The book discusses engineering cybernetics, which is defined as that section of cybernetics dealing with the theoretical problems connected with the development of the machinery which performs complex logical automatic control operations. The author reviews the utilization of analogy, the theory of information, adaptive systems, the random nature of the behavior of complex cybernetics, the utilization of the statistical theory, and of the theory of nonlinear systems. The author mentions A.I. Berg, S.A. Lebedev, A.A. Dorodnitsyn, A.A. Fel'dbaum, V.V. Solodovnikov, A.G. Ivakhnenko, and V.M. Glushkov as prominent Soviet scientists in the field of cybernetics. He thanks A.N. Sklyarevich, Candidate of Technical Sciences, M.P. Vayvars, and A.K. Baums for their assistance. There are 15 references, all Soviet, including 6 translations.

TABLE OF CONTENTS:

Foreword

Card 2/10

3

S/197/63/000/001/002/002
B172/B186

AUTHOR: Yakubaytis, E.

TITLE: Formalized synthesis and rules for the simplification of multi-cycle logic circuits

PERIODICAL: Akademiya nauk Latvyskoy SSR. Izvestiya, no. 1 (186), 1963, 67 - 74

TEXT: As is commonly known, any complex logic circuit can be synthesized on the basis of a complete system of functions of the algebra logic and shift operation. In conjunction with this problem, the author describes a method for the formalized synthesis of such circuits and conversion conditions for signals and pulses located on various discrete levels. For the synthesis of a logic system with a finite number of inputs and a single output, the function f is represented as a disjunction of pulses which appear on those multi-cycles where f is different from zero:

$$f = \bigvee_{\substack{i=0 \\ j=0}}^{p-1} f_j^{i+1, i}$$

Card 1/2

Formalized synthesis and rules...

S/197/63/000/001/002/002
B172/B186

$f_{j+1,i}$ is the pulse on the j -th cycle (from signals transmitted to the input of the circuit; $p - 1$ is the total number of pulses (any positive integer number, including infinity). The synthesis is materialized for two examples: 1) for a square pulse generator with a reciprocal of the pulse duty factor, equaling 0.5, and a pulse period of 2; 2) for a logic device, capable of converting binary numbers into a number of pulses; information on the digit order number is transmitted in parallel (simultaneously). Rules for the conversion of logic expressions (conjunctions and disjunctions) occurring in multi-cycle circuits are also given. There are 5 figures and 1 table.

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN Latv.SSR
(Institute of Electronics and Computer Engineering AS LatSSR)

SUBMITTED: November 17, 1962

Card 2/2

YAKUBAYTIS, E.A. [Jakubaitis, E.], akademik

Cybernetics and the development of science. Izv. AN Latv. SSR
no.12:24-26 '63. (MIRA 17:3)

1. AN Latviyskoy SSR.

ACCESSION NR: AT4038166 8/2690/63/005/006/0101/0118

AUTHOR: Yakubaytis, E. A.

TITLE: Feedback in logical nets synthesized on the basis of one type of complete truth elements

SOURCE: AN LatSSR. Institut elektroniki i vy*chislitel'noy tekhniki. Trudy*, v. 5, 1963. Avtomatika vy*chislitel'naya tekhnika (automation and computer engineering), no. 6, 101-118

TOPIC TAGS: logic circuit, logic network, feedback, logic system simulation, computer theory

ABSTRACT: In view of the little attention paid hitherto in the literature to logical nets based on logic elements having one or several feedback loops, the author discusses the synthesis of nets of this type from various types of full-truth logic elements (OR-NOT, NOT-NOT-OR, AND-NOT, NOT-NOT-AND). Separate analysis of each of

Card 1/3

51" ACCESSION NR: AT4038166

these circuits shows that the feedback loops of a logical net synthesized from one type of complete-truth logic element must contain only an even number of these elements. A subnet with OR-NOT or NOT-NOT-AND elements is a device which memorizes the fact that at least one signal (unity) has appeared at any of the even inputs, while a subnet with AND-NOT or NOT-NOT-OR elements remembers the appearance of negation of a signal at the odd inputs. In the former case the memory is erased by applying unity to the odd input, and in the latter by applying zero to the even input. A generalized truth table is given for feedback subnets and a procedure is described for the synthesis of logical nets on the basis of an OR-AND element. This procedure and the tables that are used in it can be extended to all other types of logic elements. Orig. art. has: 3 figures, 2 formulas, and 3 tables,

ASSOCIATION: Institut elektroniki i vy*chislitel'noy tekhniki AN LatSSR (Institute of Electronics and Computer Engineering, AN LatSSR)

Card 2/3

ACCESSION NR: AT4038166

SUBMITTED: 00

DATE ACQ: 04Jun64

ENCL: 00

SUB CODE: DP

NR REF SOV: 002

OTHER: 001

Card 3/3

TOPIC TAGS: logical circuit, feedback

ABSTRACT: Methods of analysis and formalized synthesis of logical circuits

Algorithms for the synthesis from formal synthesis are given. The synthesis is

Abstract. The article is devoted to the problem of the synthesis of the control systems of the objects of the control.

It is shown that the synthesis of the control systems of the objects of the control can be carried out by the method of the synthesis of the control systems of the objects of the control. The relations between function tables and cycle diagrams formulated in the article.

Keywords: control systems, synthesis, function tables, cycle diagrams. Orig. art. has: 26 figures, 45 formulas, and 5 tables.

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN Latvii

TITLE: Sequential asynchronous circuit, without delay elements

SOURCE: AN LatSSR. Izvestiya, no. 10, 1964, 31-38

TOPIC TAGS: electronic circuit

Abstract: The paper represents an attempt to synthesize sequential circuits of the type in which the delay elements are not used.

Input signals are negligibly small. Specifically, a sequential circuit with n inputs and a single output is studied. The results can be extended to include the case of multiple outputs.

The author's earlier paper (Avtomatika i vychislitel'naya tekhnika 9, Riga 1964) gives the basic equations for a sequential circuit. Here are they formed as follows to allow for the limitations imposed in this study.

Card 1/4

L 53695-65

ACCESSION NR: AP5017166

$$X_1 = \bar{A}B + B\bar{A} + \bar{A}X + BX\bar{X}$$

(24)

$$X_1 = \bar{A}B + B\bar{A} + \bar{A}X + BX\bar{X}$$

39.

$$X_1 = \bar{A}B + B\bar{A} + \bar{A}X + BX\bar{X}$$

40)

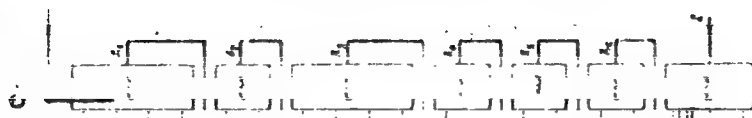
$$X_1 = \bar{A}B + B\bar{A} + \bar{A}X + BX\bar{X}$$

$$X_1 = \bar{A}B + B\bar{A} + \bar{A}X + BX\bar{X}$$

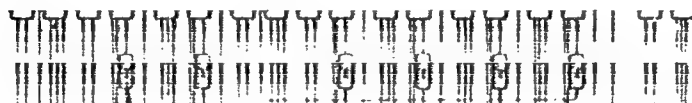
L 53695-65

ACCESSION NR: AP5017166

0



Al



Sequent

2 4 7

Fig. art. has 2 figures, 42 formulas, and 2 tables.
Card 3/4

L 55895-82

ACCESSION NR: AP5017166

6

ASSOCIATION: Institut' elektroniki i vychislitel'noy tekhniki AN Latv. SSR
(Institute of Electronics and Computer Engineering, AN Latv. SSR)

Card 4/4

L 04:13-67

ACC NR: AT6019744

SOURCE CODE: UR/3192/65/000/011/0119/0132

AUTHOR: Yakubaytis, E. A.; Vayvars, M. P.; Frantsis, T. A.; Laksa, Ya. Ya.

56

B+1

ORG: none

TITLE: An automaton which determines the breakdown voltage of high-voltage power diodes

SOURCE: Akademiya nauk Latvyskoy SSR. Institut elektroniki i vychislitel'noy tekhniki. Avtomatika i vychislitel'naya tekhnika, no. 11, 1965, 119-132

TOPIC TAGS: semiconductor diode , silicon diode, dielectric breakdown, automaton

ABSTRACT: The authors describe an automaton capable of determining the breakdown voltage of diodes in the 150 to 2,000 v range and of inverse currents up to 200 ma. The paper presents the basic equations, a description of the device (a block diagram of the automaton, a diagram of the high-voltage voltage-to-binary code converter, logical scheme, decoder scheme, and automatic power and counter control diagram), and the logic of its operation. The load curves of the nonlinear block, the volt-ampere characteristic of diodes, and limiting values of voltage increments are also given. Orig. art. has: 14 formulas, 9 figures, and 4 tables.

SUB CODE: 09, 20/ SUBM DATE: Nov64/ ORIG REF: 003

Card 1/1

UDC: 621.382.2: 621.317-52

L 26705-66

ACC NR: AT5028451

SOURCE CODE: UR/2690/65/009/000/0145/0148

AUTHOR: Yakubaytia, E. A.; Shmaukstel', N. P.

ORG: none

TITLE: Synthesis and minimization of diagrams with real AND-NOT or OR-NOT logical elements

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 9, 1965. Avtomatika i vychislitel'naya tekhnika, 145-148

TOPIC TAGS: logic design, minimization, function, algorithm, computer logic

ABSTRACT: If, according to the rule $f(A_1, \dots, A_n, +, \cdot) = f(\bar{A}_1, \dots, \bar{A}_n, +, \cdot)$, the NOT operation be performed on a specified disjunctive normal form (DNF) of a function free from hazardous contests, the resulting conjunctive normal form (CNF) will also be free from hazardous contests. If DNF and CNF be subjected to the Shannon transformation, the resulting disjunctive and conjunctive inverse forms (a) do not have hazardous contests and (b) describe OR-NOT and AND-NOT diagrams, respectively. Hence, this algorithm is recommended: (1) By using the Quine-McCluskey

Card 1/2

UDC: 62-507

L 26705-66

ACC NR: AT5028451

algorithm, a curtailed DNF of the corresponding function, free from hazardous contests, is obtained; (2) The curtailed DNF is minimized; (3) The Shannon transformation is performed; (4) If a disjunctive inverse function is synthesized, the function f_1 should be negated (NOT). An example illustrates the method. Orig. art. has: 12 formulas.

SUB CODE: 09,12/

SUBM DATE: none/

ORIG REF: 002/

OTH REF: 003

Card

2/2 mgs

L 04410-67 EWT(d) IJP(c)

ACC NR: AT6019740

SOURCE CODE: UR/3192/65/000/011/0049/0057

AUTHOR: Yakubaytis, E. A.; Shmankstel', N. P.

37
B+1

ORG: none

TITLE: Methodology for the establishment of the minimal disjunctive normal form of functions free of hazardous competitions

SOURCE: Akademiya nauk Latvyskoy SSR. Institut elektroniki i vychislitel'noy tekhniki. Avtomatika i vychislitel'naya tekhnika, no. 11, 1965, 49-57

TOPIC TAGS: electric relay, function theory, logic element

ABSTRACT: For the establishment of the minimal normal disjunctive ¹⁶form the authors offer a method for the establishment of all dead-end form free of competitions. Dead-end are those forms for which the removal of even a single implicant is followed by either the disruption of the logical equivalence or the appearance of hazardous competitions. To obtain such dead-end forms from the abbreviated disjunctive normal form certain simple implicants are removed from the function in such a way that the remaining implicants cover all the proximities appearing in the perfect disjunctive normal form of the function. The method is based on the con-

Card 1/2

UDC: 62.507

L 04410-67

ACC NR: AT6019740

0
junctive representation of a certain table called the gluing table. Two illustrative examples are worked out and a program for the minimum disjunctive normal form is outlined. Orig. art. has: 4 formulas, 2 figures, and 3 tables.

SUB CODE: 12/ SUBM DATE: 00Nov64/ ORIG REF: 001

ms
Card 2/2

L 26703-66

ACC NR: AT5028449

SOURCE CODE: UR/2690/65/009/000/0111/0132

AUTHOR: Yakubaytis, E. A.

20
B+1

ORG: none

TITLE: Synthesizing sequential asynchronous logical diagrams

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy. v. 9, 1965. Avtomatika i vychislitel'naya tekhnika, 111-132

TOPIC TAGS: logic design, sequence switch, switching circuit

ABSTRACT: Based on the classical D. A. Huffman work (J. Franklin Inst., 1954, 257, 3-4), a method is set forth of synthesizing asynchronous sequential logical diagrams; their steps are represented in terms of inertial subdiagrams. The logical diagram is specified in step-table and step-diagram languages. From the step table, a step diagram is constructed. In an inertial subdiagram, the transition to a two-valued step leaves the value of the output variable unchanged. The latter is determined by a set of steps from which transitions to the step in question are specified. The output variable of the sequential diagram is described by this disjunction:

Card 1/2

UDC: 62-507

L 26703-66

ACC NR: AT5028449

$Z = V_1 + V_2 + \dots + V_h + Y_1 + Y_2 + \dots + Y_m$, where h is the number of single-valued steps with $Z = 1$ and m is the number of two-valued steps with $Z = 1$. The resulting equations are minimized by conventional methods, and the diagram is checked for hazardous contests. The above method of synthesis is illustrated by two examples. Orig. art. has: 9 figures, 36 formulas, and 10 tables.

SUB CODE: 12, 09 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 001

Card

2/2

L 05264-67 EMP(a)/EMP(s)/EMP(v)/EMP(k)/EMP(h)/EMP(l) LJP(z) BE/RS

ACC NR: AM6014905

Monograph

UR/

YAkubaytis, Eduard Aleksandrovich

29
B+1

Asynchronous logical automata^{16C} (Asinkhronnyye logicheskiye avtomaty)
Riga, Izd-vo "Zinatne", 1966. 378 p. illus., index. (At head of
title: Akademiya nauk Latvyskoy SSR. Institut elektroniki i
vychislitel'noy tekhniki) Errata slip inserted. 3500 copies printed.

TOPIC TAGS: logic circuit, logic element

PURPOSE AND COVERAGE: This book is intended for scientific and technical personnel concerned with the development of automatic control systems, as well as for students at higher schools of education specializing in the field of automation. The book deals with problems related to analysis and synthesis of asynchronous logical automatic devices. It discusses automatic devices without feedback circuits, automatic devices utilizing one or several feedback circuits, and automatic devices utilizing delay elements. Special attention is paid to automatic devices using feedback circuits, the methods of their synthesis, the reduction of their costs, and the detection and elimination of conflicts within them. Many illustrative examples are given. The aim of the book is to provide technical personnel with methods for developing logical automatic devices on

Card 1/7

I 0531-57

ACC NR: AM6014905

the basis of standard logical units.

TABLE OF CONTENTS:

Introduction -- 3

Ch. I. Logical Automata in Control Systems -- 5

1. Structure of a control system -- 5
2. Signals and their shape -- 6
 - a. Continuous signal shape -- 6
 - b. Discrete signal shape -- 7
3. Binary number system -- 12
4. Binary-to-decimal conversion -- 15
5. Decimal-to-binary conversion -- 16
6. Converters of continuous to binary signals -- 18
7. Converters of binary to continuous signals -- 21

Ch. II. Algebra of Logic -- 23

1. Postulates and their interpretation -- 23
2. Basic laws of logic algebra -- 27
3. Methods of investigating the logical equivalence of equations -- 31

Card 2/7

L 05264-67

ACC NR:AM6014905

Ch. III. Elements of Logical Automata -- 37

1. Logic unit NOT -- 37
2. Logic unit OR -- 39
3. Logic unit AND -- 41
4. Universal operations units -- 44
5. Threshold logical units -- 49
6. Delay -- 53
7. Filter -- 54
8. Multifunctional units -- 56

Ch. IV. Ways of Forming Logical Conversions -- 58

1. Abstract and structural synthesis of logical automata -- 58
2. Basic definitions -- 59
3. Methods for forming non-sequential automata -- 61
 - a. Time diagram -- 61
 - b. Time table -- 72
4. Methods for forming sequential automata -- 81
 - a. Diagram of a sequential automatic device -- 81
 - b. Table of a sequential automatic device -- 82

Ch. V. Logical Automatic Devices Without Feedback Circuits -- 85

Card 3/7

L 05264-67

ACC NR:AM6014905

0

1. Methods of representing primitive automata -- 85
2. Static characteristics of automata based on AND, OR, and NOT units -- 88
3. Static characteristics of automata developed on the basis of one of the types of universal operations units -- 96
 - a. Characteristics of automata synthesized on the basis of either OR-NOT or NOT-NOT-AND units -- 97
 - b. Characteristics of automata developed on the basis of either AND-NOT or NOT-NOT-OR units -- 100
4. Rules governing shift of automata from one [binary] state to the other -- 103
5. Methods for detecting spurious shifts -- 108
 - a. Shifts occurring during variations in the value of one input signal -- 109
 - b. Shifts occurring during the simultaneous variation of any number of input signals -- 115
6. Normal sums free of spurious shifts -- 116
 - a. Reduced normal sums -- 116
 - b. Optimal normal sums -- 130
7. Minimizing of normal sums without taking into account the possibility of spurious shifts -- 144

Card 4/7

L 05204-01

ACC NR: AM6014905

8. Elimination of spurious shifting in automata at whose inputs any number of signals can vary simultaneously -- 150
 - a. Elimination of spurious shifting by means of filters -- 151
 - b. Elimination of spurious shifting by means of design redundancy -- 152
 9. Synthesis of single-output automata on the basis of AND, OR, NOT, TO and OR-NOT units. -- 154
 10. Synthesis of single-output automata on the basis of one type of universal operations unit -- 168
 - a. Circuit synthesis on the basis of either AND-NOT or NOT-NOT-OR units -- 168
 - b. Circuit synthesis on the basis of either OR-NOT or NOT-NOT-AND units -- 170
 11. Synthesis of multiple-output automata -- 174
- Ch. VI. Logical Automata Using One Feedback Circuit -- 181
1. Methods of representing inertial circuits -- 185
 2. Types of inertial circuits -- 189
 3. Complete normal sums of inertial circuits -- 198
 4. Spurious shifts and methods of detecting them -- 204
 5. Normal sums of inertial circuit free of spurious shifts -- 210

Card 5/7

L 05264-67

ACC NR: AM6014905

0

6. Optimal normal sum in which any number of input signals can vary simultaneously -- 215
7. Synthesis of inertial circuits -- 221
8. Inertial circuits defined by incomplete truth tables -- 230
9. Multiple output inertial circuits -- 234

Ch. VII. Logical Automata Using Several Feedback Circuits -- 238

1. Methods of representing the switching of sequential circuits -- 240
2. Simplification of a formalized switching table -- 244
3. System of complete normal sums -- 252
4. Synthesis of a sequential circuit at whose inputs an arbitrary number of signals can vary simultaneously -- 256
5. Development of a sequential circuit in which only one input signal can vary at a time -- 276
6. Development of a sequential circuit on the basis of an incomplete switching diagram -- 308
7. Plotting a switching diagram from a system of equations -- 311
8. Further reduction in the quantity of inertial subcircuits -- 317

Card 6/7

L 05264-67

ACC NR: AM6014905

- Ch. VIII. Time-Dependent Automata -- 334
1. General definitions -- 334
 2. Shift of timed levels -- 340
 3. Automata without delayed feedback -- 347
 4. Automata with delayed feedback -- 361

Appendix -- 366

Alphabetical Index -- 373

SUB CODE: 09/ SUBM DATE: 01Dec65/ ORIG REF: 005/ OTH REF 008/

Card 7/7

eqk

AUTHOR: Yanitskiy, S. A. Vaynshteyn, M. I. Frenkel, I. A.

TITLE: Multiplication of digital numbers by means of a silicon Zener diode
Vologda

CITED SOURCE: Izv. AN SSSR, Ser. fiz. i tekhn. nat. 3, 1964, 77-87

TOPIC TABLE: 1. Multiplication of digital numbers

product as compared to purely analog devices. The multiplier is a voltage-to-code converter; it is based on the principle of determining a multiplier for the known value of the multiplicand that ensures the maximum product. The voltages are determined by a number of series-connected silicon Zener diodes. The

ACCESSION NR: AR500550.1

Card

dm
2/2

YAKUBENAYTE, R.P. [JAKUBINAITE, R.]

Carex humilis Leyss. and *Bothrychium multifidum* (Cmel.) Rupr. in
Pronsk District, Ryazan Province. Hauch.dokl.vys.shkoly; biol.
nauki no.1:142-143 '58 (MIRA 11:8)

1. Predstavlena kafedroy geobotaniki Moskovskogo gosudarstvennogo
universiteta im. M.V. Lenonosova.
(PRONSK DISTRICT--BOTANY)

YAKUBCHENIS, V. I.

Paper Industry

Producing high-grade paper. Bum. prom. 28 no. 2, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

YAKUBCHIK, A. I.

Polymerization of divinyl with metallic sodium in the presence of various admixtures. A. I. Yakubchik, *Izvestiya Gosstat. Opt. Zavoda Sintet. Khar'kov, Lit. N. 11, Synthetic Rubber 1935, 11-21.* The velocity of polymerization of divinyl in the presence of Na depends upon the presence of various admixts. Thus acetylene and aromatic hydrocarbons as well as some amines inhibit the velocity of the polymerization, while substances such as styrene and Ph₂C=CH₂ promote the polymerization to some extent. The admixts. affect not only the velocity of the polymerization but also the quality of the obtained polymer. Thus, in the presence of dimethylacetylene, unsymmetrical dimethylallene, phenanthrene and others a fluid polymer is obtained, which is probably due to the formation of a polymer with short chains. The exps. are described. Seven references.

A. A. Ischilling

YAKUBCHIK, A. I.

Dehydrogenation of pseudobutylene. A. I. Yakubchik
Tudy Gosdard. Opyt. Zaroda Sintet. Kautsuka, Leningrad.
B. IV. Synthetic Rubber 1935, 60-7. —The expts. were
carried out in the presence of the following catalysts:
MgO, Cu, Cu wool, glossy coal ptd., on unglazed porce-
lain, Lebedev catalyst, Glukhov clay, Glukhov clay +
1% NaNO₃, reduced Cu powder and pumky stone. For
the first expts. a pseudobutylene was used which was prepd.
from C₄H₈Br in an alc. soln. In the following expts. a pseu-
dobutylene prepd. by dehydration of BuOH in the presence
of P₂O₅ on pumky stone after reduction at 380-400° was
used. The dehydrogenation of the pseudobutylene was
carried out in Cu, quartz and porcelain tubes at 500-
700° in the presence and absence of H₂O. The yields of
divinyl amounted up to 22.0% without and 78% with
recycling.

A. A. Roehlingsk

YAKUBCHIK, A. I.

2

Lebedev, A. I. Yakubchik. *J. Gen. Chem.* (U. S. S. R.) 5, 1-17 (1935).—A biography with portrait, sketch of L.'s work and list of publications. S. L. M.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

YAKUBCHIK, A. I. 30

Chemical characteristics of butadiene rubbers from the contents of HCO_2H and HCHO in decomposition products of their ozonides. A. I. Yakubchik, A. A. Vasil'ev and V. M. Zhabina. *J. Applied Chem. (U.S.S.R.)* 17, 107-113 (1944) (English summary).—Several butadiene rubbers (1944) were ozonized under controlled conditions and HCHO and HCO_2H were detd. in the hydrolysis products. Na-butadiene rubber has approx. 49% vinyl type of side-chains when polymerized by the red method, and 43% when polymerized without the use of Na radicals. Homogeneous polymerization gives 37% of vinyl groups, while DAI and G-51 recipes yield 31% and 27%, resp., of vinyl groups. G. M. Kosolapoff

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CLASS	SUBCLASS	SECTION	SERIAL	DATE	REMARKS
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10
11	11	11	11	11	11
12	12	12	12	12	12
13	13	13	13	13	13
14	14	14	14	14	14
15	15	15	15	15	15
16	16	16	16	16	16
17	17	17	17	17	17
18	18	18	18	18	18
19	19	19	19	19	19
20	20	20	20	20	20
21	21	21	21	21	21
22	22	22	22	22	22
23	23	23	23	23	23
24	24	24	24	24	24
25	25	25	25	25	25
26	26	26	26	26	26
27	27	27	27	27	27
28	28	28	28	28	28
29	29	29	29	29	29
30	30	30	30	30	30
31	31	31	31	31	31
32	32	32	32	32	32
33	33	33	33	33	33
34	34	34	34	34	34
35	35	35	35	35	35
36	36	36	36	36	36
37	37	37	37	37	37
38	38	38	38	38	38
39	39	39	39	39	39
40	40	40	40	40	40
41	41	41	41	41	41
42	42	42	42	42	42
43	43	43	43	43	43
44	44	44	44	44	44
45	45	45	45	45	45
46	46	46	46	46	46
47	47	47	47	47	47
48	48	48	48	48	48
49	49	49	49	49	49
50	50	50	50	50	50
51	51	51	51	51	51
52	52	52	52	52	52
53	53	53	53	53	53
54	54	54	54	54	54
55	55	55	55	55	55
56	56	56	56	56	56
57	57	57	57	57	57
58	58	58	58	58	58
59	59	59	59	59	59
60	60	60	60	60	60
61	61	61	61	61	61
62	62	62	62	62	62
63	63	63	63	63	63
64	64	64	64	64	64
65	65	65	65	65	65
66	66	66	66	66	66
67	67	67	67	67	67
68	68	68	68	68	68
69	69	69	69	69	69
70	70	70	70	70	70
71	71	71	71	71	71
72	72	72	72	72	72
73	73	73	73	73	73
74	74	74	74	74	74
75	75	75	75	75	75
76	76	76	76	76	76
77	77	77	77	77	77
78	78	78	78	78	78
79	79	79	79	79	79
80	80	80	80	80	80
81	81	81	81	81	81
82	82	82	82	82	82
83	83	83	83	83	83
84	84	84	84	84	84
85	85	85	85	85	85
86	86	86	86	86	86
87	87	87	87	87	87
88	88	88	88	88	88
89	89	89	89	89	89
90	90	90	90	90	90
91	91	91	91	91	91
92	92	92	92	92	92
93	93	93	93	93	93
94	94	94	94	94	94
95	95	95	95	95	95
96	96	96	96	96	96
97	97	97	97	97	97
98	98	98	98	98	98
99	99	99	99	99	99
100	100	100	100	100	100

COUNCIL ELEMENTS		30	
<div style="position: relative;"> <div style="position: absolute; top: 10px; left: 10px; font-size: 2em; font-weight: bold;">YAKUBCHIK, A. I.</div> <div style="position: absolute; top: 150px; left: 10px; font-size: 2em; font-weight: bold;">C</div> </div>		<p>PROCESSED AND PROPERTY INDEX</p> <p>The chemical constitution of butadiene rubbers, based on the formic acid and formaldehyde in the decomposition products of their ozonides. A. I. Yakubchik, A. A. Yellev, and V. M. Zhaldina (Lebedev Exptl. Plant, U.S.S.R.). <i>Rubber Chem. Techn.</i> 18, 780-84 (1945).-- See C.A. 39, 1543i.</p> <p style="text-align: right;">C. C. Davis</p>	
<p>ASD-51A METALLURGICAL LITERATURE CLASSIFICATION</p>		<p>6-2 2 2 2</p>	
<p>140000 01</p>		<p>000000 010 000 000</p>	
<p>000000 010 000 000</p>		<p>000000 010 000 000</p>	

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4"

YAKUBCHIK, A. I.

7

✓ Oxidation of unsaturated compounds. I. Preparation of curves of the absorption of ozone by unsaturated compounds. A. I. Yakubchik, N. G. Kasatkina, and T. E. Pavlovskaya (~~State Univ., Leningrad~~). *Zhur. Obshchei Khim.* 25, 1472-7 (1953).—An app. consisting of a series of absorbers contg. the sample in CHCl_3 and KI soln. in phosphate buffer is employed for quant. detn. of O_3 uptake by unsatd. compds. The detn. is based on titration of iodine liberated by the O_3 - O_2 stream before and after passing through the test soln. The end of the reaction is reached when the 2 titers are equal. Curves of the kinetics of absorption of O_3 in several compds. are shown, including ($:\text{CMe}_2$), elaidic acid, diallyl, $(\text{MeC}_2)_2$, $(\text{PhC}_2)_2$, allyl alc., 2-methyl-3-hepten-6-one, 4,6-dimethyl-8,9-menthadiene, $\text{Me}_2\text{CC}:\text{CH}$, $\text{PhCH}:\text{CH}_2$, 2,4-hexadiene, $\text{Me}_2\text{CC}:\text{CMe}$, $\text{MeCH}:\text{CHCO}_2\text{Me}$, piperylene, 3-ethenylcyclohexene. Usually the absorption in the several unsatd. bonds shows different rates detectable on the curves. The uptake of O_3 is generally the theoretical, except for cases listed below with % O_3 absorbed relative to theoretical: 2-methyl-2-hepten-6-one, 144.9%, 4,6-dimethyl-8,9-menthadiene 125%, $\text{Me}_2\text{CC}:\text{CH}$ 112.1%, $\text{Me}_2\text{C}:\text{CCMe}$, 126%, $\text{MeCH}:\text{CHCO}_2\text{Et}$ 119.3%.
G. M. Kosolapoff

CH

Handwritten signature or initials.

②

Handwritten mark.

YAKUBCHIK, A. I.

USSR/Organic Chemistry - Synthetic Organic Chemistry, 2
Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61426

Author: Yakubchik, A. I., Kasatkina, N. G.

Institution: None

Title: Ozonization of Unsaturated Compounds. II. Investigation of the
Curves of Absorption of Ozone by Unsaturated Compounds and Their
Mixtures

Original
Periodical: Zh. obshch. khimii, 1956, 26, No 3, 699-706

Abstract: Investigated were ozone absorption curves (OAC) of various un-
saturated compounds (UC) and of their mixtures for the purpose of
ascertaining the influence of structure of UC on the rate of addi-
tion of ozone. UC can add a whole or a fractional number of
mols. A fractional number is added by UC containing CO-group,
tert.-C₄H₉ and C₆H₅. Substances which absorb a whole number of
ozone mols have OAC without inflection point (compounds having one
or several isolated C = C bonds and acetylenic compounds) or with

Card 1/3

JSSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimya, No 19, 1956, 61426

Abstract: an inflection point (UC) containing $C = C$ and $C \equiv C$ bonds, a conjugated system of $C = C$ bonds, $C \equiv C$ bonds of which 2 are conjugated, and 2 $C = C$ bonds of which one is part of a cycle). For UC absorbing a fractional number of ozone mols OAC with an inflection point have been obtained which are characteristic of substances containing $C = C$ bonds and C_6H_5 -group, $C \equiv C$ bonds and C_6H_5 group or several $C = C$ bonds one of which is conjugated with a CO -group. From the shape of OAC an opinion can be formed concerning the nature of multiple bonds and their mutual distribution. It is possible to compare the amount of ozone for the different portions of the curve and determine how many bonds and which bonds are ozonized first and most rapidly. The possibility to draw conclusions concerning the structure of the substance being ozonized on the basis of the shape of OAC has been confirmed by analyses of the products of ozonolysis of styrene and a mixture of diallyl and dimethyl acetylene (I). OAC of mixtures do not differ from OAC of individual compounds. There are presented OAC of the following substances and mixtures (for the mixtures the figures in parentheses show the amount of the components, in %): vinyl butyl acetylene;

Card 2/5

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61426

Abstract: allyl alcohol (II) (49.4) methyl tert-butyl ethylene (III) (50.6); II (42.5) + styrene (54.8); $CM_2 = CHCOOC_2H_5$ (53.1) + elaidic acid (IV) (46.9); II (68.3) + IV (31.7); II (65.5) + tetramethylethylene (V) (34.5); II (50.8) + IV (49.2); II (33.9) + IV (66.1); isopropenyl acetylene; diallyl (39.7) + I (60.3); III (46.7) + V (53.3); diallyl + diisopropenyl; ethyl ester of cinnamic acid (58.1) + IV (41.9); styrene (36.1) + IV (63.9). There are shown typical forms of OAC of various UC. Communication I, see Referat Zhur - Khimiya, 1956, 46820.

Card 3/3

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4"

YAKUBCHIK, A. I.

USSR/Chemistry of High Molecular Substances.

F

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27071.

Author : Yakubchik, A.I., Gromova, G.N.

Inst :

Title : Hydrogenation of Solutions of Divinyl Rubber under Atmospheric Pressure and at Room Temperature. I. Preparation of Rubbers Hydrogenated to Various Degrees and Study of Their Properties.

Orig Pub: Zh. obshch. khimii, 1956, 26, No. 5, 1381 - 1390.

Abstract: The speed of hydrogenation of SRB (the content of the 1-2 structure = 56.6%) in a hexane or heptane solution with catalysts Pd on CaCO_3 , Pd on Ni, platinum black or Pt oxide, platinized carbon, or powdered Ni catalyst at room temperature and under atmospheric pressure

Card 1/3

USSR/Chemistry of High Molecular Substances.

F

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27071.

does not depend on the intensity of stirring and the solution concentration (0.2 to 0.8%), the ratio rubber : catalyst being constant. The hydrogenation speed (HS) rises together with the increase of the amount of the catalyst and drops sharply with time. The sharp rise of HS at the addition of fresh catalyst and the lower HS of the second weighed sample of rubber as compared with the first indicate that the catalyst activity decreases during the process of hydrogenation. The total unsaturation determined with IBr decreases with the increase of the hydrogenation depth, the ratio between the exterior double bonds (1-2 structure) determined by the ozonolysis method and the interior bonds (1-4 structure) decreases, i.e. the exterior

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962010008-4"